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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,541	07/30/2003	YI-HUI CHANG	10690-US-PA	1540
31561	7590	02/02/2005	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			CRANSON JR, JAMES W	
			ART UNIT	PAPER NUMBER
			2875	
DATE MAILED: 02/02/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/604,541

Applicant(s)

CHANG, YI-HUI

Examiner

James W. Cranson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final:
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-20 is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/30/05 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the electrodes must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,726,535 to Yan in view of USPN 6,467,921 to Lange

Yan. discloses in a lighting ~~apparatus~~ having light emitting diodes positioned on a dual sided printed circuit board that emit light. Yan does not disclose contacts on the front and back of printed circuit board or that the light emitting elements are electrically connected to the set of contacts.

Lange teaches in an illumination control unit how LEDs are connected to a PCB by the use of contacts (figure 3, column 4, lines 14-21)

Regarding claim 1, A light emitting diode array illuminant (5), comprising:
a carrier (90), wherein the carrier comprises a front surface (90a) and a back surface(90b), and a plurality set of contacts are disposed on front and back surface of the carrier (90); and

a plurality of light emitting diodes (30,40), disposed on the carrier (column 4, lines 34-38), wherein the light emitting elements are electrically connected to the set of contacts, respectively, and the illuminant provided by the light emitting diodes emits a light from the side of the carrier. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the PCBs of Yan with electrical contacts that connect to the LEDs as taught by Lange.

The reason is that it is well known that an electrical connection must exist between the PCB and the LEDs for current to flow so that LEDs can emit light.

Regarding claim 2, according to claim 1, where carrier is a PCB (90).

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Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,726,535 to Yan in view of USPN 6,467,921 to Lange as applied to claim 1 above and further in view of USPN 5,325,271 to Hutchisson. Modified Yan does not have a flexible PCB. Hutchisson teaches a flexible printed circuit board (18-figs.1-2; col.3, lines 14-16) located at the lateral end of the light source (14) for the purpose of energizing at least one LED (14). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the modified light module of Yan to include the type of FPC as taught by Hutchisson in order to energize the light source and flexibly position the light source relative to the dimensions of the light guide or optical element.

Regarding claim 4, according to claim 3, wherein FPC is single layer (18-figs.1-2; col.3, lines 14-16).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,726,535 to Yan in view of USPN 6,467,921 to Lange as applied to claim 1 above and further in view of USPN 4,964,025 to Smith. Modified Yan does not have surface adhesion type LEDs. Smith teaches in a light source that connecting a LED by epoxy adhesion is conventional (column 3, lines 37-42). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide modified Yan with adhesion mounting means as taught by Smith.

The purpose is ease of manufacture.

Regarding claim 6, according to claim 1, wherein LED array is symmetrically disposed (Yan, figure 2).

Allowable Subject Matter

Claims 7-20 are allowed.

The following is an examiner's statement of reasons for allowance:

Independent claim 7 includes LED array comprising folded FPC plate, first and second join area, bending area, plural first and second contacts, the LEDs disposed on first and second joint area. This combination of limitations is not found or taught in the art of record. Claims 8 and 9 depend from claim 7 and are allowable for the same reasons.

Independent claim 10 includes a backlight module comprising a conventional light guide panel, a carrier, wherein the carrier comprises a front surface and a back surface, and a plurality set of contacts are disposed on the front surface and the back surface of the carrier and LEDs electrically connected to the sets of contacts, respectively and LEDs emit light from a side of carrier. This combination of limitations is not found or taught in the art of record. Claims 11-16 depend from claim 10 and are allowable for the same reasons.

Independent claim 17 includes LED array comprising folded FPC plate, first and second join area, bending area, plural first and second contacts, the LEDs disposed on first and second joint area and a conventional light guide panel. This combination of limitations is not found or taught in the art of record. Claims 18 -20 depend from claim 17 and are allowable for the same reasons.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure USPN 5,585,783 to Hall, USPN 6,539,656 to Mass et al., USPN 5,750,974, to Sasaki et al. and USPN 6,550,927 to Messel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James W. Cranson whose telephone number is 571-272-2368. The examiner can normally be reached on Mon-Fri 8:30A.M.- 5:00P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandy O'Shea can be reached on 571-272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).




Stephen Husar
Primary Examiner